

Non-performing assets and profitability: case of Indian banking sector

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Abstract

Introduction: *The Indian banking industry is currently facing a difficult time in the context of a rising trend in non-performing assets (NPAs) that is challenging its power and resilience.*

Aim: *The purpose of this analysis is to analyse the NPA-profitability relationship for the Indian banking sector to assess the severity of NPAs' effect on bank profitability. Other bank-specific, industry-specific and macroeconomic variables that influence banking benefit were also taken into account.*

Method: *For the purpose of the appropriate study a balanced panel of data comprising all Indian banks over a period of 8 years (2011–2018) has been used. Fixed effects and random effect panel regression models have been drawn.*

Findings: *There is a strongly unfavorable association between NPA and the profitability measure: asset return (ROA). The results of the study identified NPA as the biggest detractor of the income of the banking industry because NPA has the highest negative regression coefficient. It means that decreasing credit quality hinders and causes banks to fail.*

Key Words: *NPL, NPA, Indian Banking, Bank Profitability*

Jel Codes: *G21, G51, O16*

1. INTRODUCTION

For a nation's economy, the existence of large and viable financial institutions is crucial. This applies primarily to developed countries such as India, where economic structures are traditionally banking. As the significant fund driver, the banking sector effectively mobilizes domestic deposits, provides investment financing, and manages a seamless payment mechanism that facilitates money management. As the Chief Financial Broker, the banks carry out the crucial duty of financing capital formation, thus growing manufacturing potential and foreign trade, increasing work prospects, and speeding up economic

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acceleration (Levine, 1997; Rajan & Zingales, 1998). The Indian banking sector is currently facing a tough time testing its power and durability. The Indian economy has seen a growing trend of non-performing assets (NPAs) in the banking sector over the last few years, in particular. The banks persist under the continuously rising pressure of strained investments and weak credit expansion. As reported in The Indian Express article (Iyer, 2018), the «irrational exuberance» caused by the plausible growth of the Indian economy even in the 2007-2008 time of the global financial crisis is at the heart of today's NPA problem. Due to this NPA crisis, the Indian economy has seen a sinister spiral of inadequate capital demand and supply. The sluggish efforts in poor lending are a big challenge for India's banking industry (Sathye, 2005). The effect of NPAs on banks' productivity and profitability is triple. First, provision must be made for losses arising from defaulted loans that restrict the banks' subsequent lending ability (Rajeev & Mahesh, 2010). Secondly, the lender's estimated cash inflow reduces in the absence of interest charges or principal sums. Finally, the natural loss of the bad loans should be excluded from the income.

The problem of soundness in financial institutions in general and bank efficiency, in particular, has drawn the proper attention of many researchers and policymakers in the aftermath of the 2007-2008 US financial crisis. As Messai and Jouini (2013) said, minimizing NPAs is a crucial prerequisite for improving the economic conditions. NPAs are among the significant factors that prevent banks' solidity and development (Ramli, Mohammed, Hussin, & Khairi, 2018). Karim, Chan and Hassan (2010) found out that the accumulation depletes bank capital of issue credit during the Malaysia and Singapore financial sectors. Thus, the degree to which these bad credits influence banking institutions' efficiency can be calculated by determining the relation between NPAs and the profitability of the banks. The key reason and inspiration for this research are that any negligence of these institutions will result in economic instability in an economy like India, where commercial banks are an integral part of the financial sector. Many scholars were interested in the topic mentioned above, and many studies examined the causal factors affecting bank profitability and stability.

Much of these reports concentrate on the international financial sector and the banking industry of developing economies. Just a tiny volume of literature on transitional economies is zero. The findings

from the studies on more economically developed economies, Agoraki, Delis, and Pasiouras (2011), do not affect the developing nations. The explanation for this is the conflicting democratic, legislative, and economic conditions of the two. Therefore, the factors that influence the success of banks in developed countries must be discussed. Besides, the seriousness of the NPA problem in these economies still requires consideration. The present study will explore the aspects that shape the Indian banking industry's productivity and success to evaluate the severity of NPA's impact on banks' profitability. Therefore, the goal of the analysis is to empirically study the effect of NPAs on bank profitability, as well as some other bank-specific and external influences, and examine the impact of this impact. The study demonstrates, amongst other aspects, how effectively oversight and regulation were carried out by analyzing the extent of the effect of bad loans on the financial performance of the banks.

Furthermore, this study will also assess the macroeconomic context in which the banks operate. The present study uses NPAs as the primary predictor of bank income to define and analyze this relationship between NPAs and bank profitability and some other factors that influenced the projected variable for the Indian banking industry during the period between 2005 and 2018. The rest of the report is conducted as follows: The second segment will address historical research and bank results determinants. The third section would describe the methodological research approach and the required details on the report's variables. The analytical results are presented in the fourth segment. Finally, in section 5, the assumptions and consequences are addressed.

2. LITERATURE REVIEW

The aim of this segment will be to review current literature relating to bank output studies and their determinants. There are a significant number of research studies analysing the factors affecting bank results. The findings of each of these studies have highlighted that credit rating is a statistically imperative 'insolvency indicator' and that large numbers of NPAs have been identified associated with failing organizations prior to collapse (Demirgüç-Kunt, 1989; Whalen, 1991; Komoni, et al, 2022).

There are a fair number of studies investigating the success of the banking sector and the factors responsible for its effects. Test trials for this reason analysed the banking sector of each country or conducted a cross-country analysis. The former study party includes Berger (1995a), Neely and Wheelock (1997), Barajas, Steiner and Salazar (1999), Abreu and Mendes (2002). (2003). Studies on Molyneux and Thornton (1992), Demirgüç-Kunt and Huizinga (1999), Dell'Atti (2015), Pacelli and Mazzarelli, amongst others, are covered in the latter grouping. Short (1979) and Bourke contributed to the notable work in determining variables that influence bank success (1989). Inspired by their groundbreaking work, several research pieces have been carried out to examine the above-mentioned connection. There are therefore two approaches to studying bank results, namely the productivity approach and the profitability approach. Technical reliability was used to assess bank production under the efficiency strategy. As indicated by Bhattacharyya, Lovell and Sahay (1997) and Arora, Arora and Kanwar (2018), the technical productivity demonstrates the capacity and management of banking institutions to transfer capital into different financial services. Cost-efficiency was also used to measure banking sector performance (Mitchell & Onvural, 1996). The extent of NPA contributes to banks' cost inefficiency (Berger & DeYoung, 1997; Girardone, Molyneux, & Gardener, 2004). The profitability strategy, on the other hand, uses financial ratios such as ROA and ROE as a proxy for bank results. In this technique, simple or complex panel regression models are used. The following parts have clarified this profitability strategy in depth.

As seen in the events of the global financial crisis of 2007–2009, a banking problem can cause a financial crisis, which can result in an economic meltdown (Marshall, 2009). In order to safeguard the banking sector from such crises, the analysis of bank efficiency has also gained due attention from academics and policy makers. Commercial banks' main focus, aside from their social objectives, is profit maximisation. In order to make more money, banks also take on extremely speculative investments that can impede their long-term stability. The present research is therefore concerned with indicators of profitability and the factors leading to them. In current literature, various financial measures, such as return on assets (ROA), return on equities (ROE) etc., were used as surrogate for bank income.

RESEARCH GAP

Studies on the importance of NPA-profitability for the Indian banking sector are scarce. Studies have found only public sector banks, or have researched banks group-specific (Bodla & Verma, 2006) (Seenaiah et al., 2015). Studies covering all planned commercial banks (SCBs) in their study analysed only internal bank variables (Haque & Shahid, 2016). Few researchers have extended their model to incorporate both internal and external factors but the studied duration is not quite comprehensive. In view of both internal and external explanatory variables, this thesis attempts to illustrate the NPA connection to profitability and resolve this discrepancy in the degree to which NPA has an effect on bank profitability, which is of significant substance.

OBJECTIVES OF THE STUDY

- i-To explore the determinants of bank performance.
- ii-To study the significance of the influence of NPA on bank performance

3. RESEARCH METHODOLOGY

For drawing results, time-series data from 2011 to 2018 has been framed of ROA, CAR, NPA, GDP. The available data is then assessed through the PLS model to obtain a conclusion. Data collection has been done from the official websites of RBI and the world bank. With the help of a bank profitability model, an attempt to meet the research objectives has been made. Following research tool has been employed

1. Mean
2. Standard Deviation
3. Correlation
4. T-test.

4. DATA ANALYSIS RESULTS AND DISCUSSION

From the below figure 1 it can be depicted that return on asset has a negative trend line and the upcoming sections of research will be focusing on the finding the reasons for the same. The diagram shows a time series data of various indicators and shown along with return on assets of Indian banks. It shows the values of capital adequacy ratio, GDP, nonperforming assets and return on assets of Indian Banks from the period 2011 to 2018.

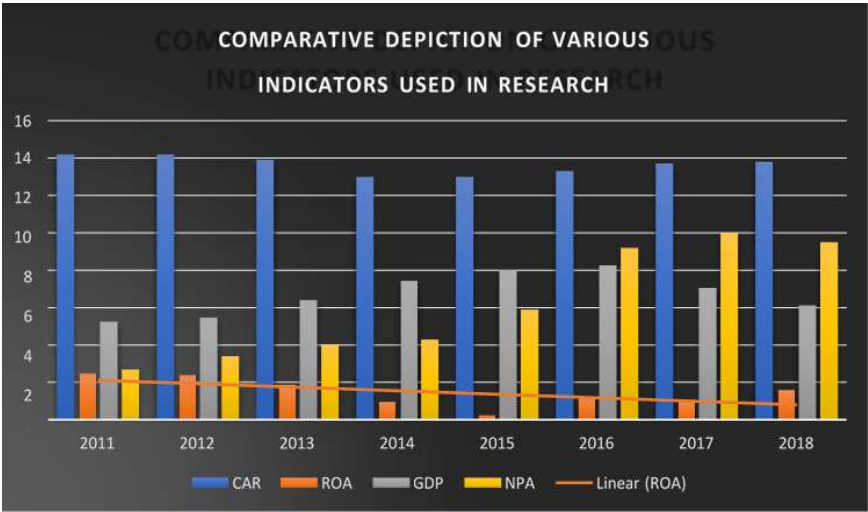


Figure 1: Study Indicators

Table 1 shows the original overview statistical results. The table indicates that the average ROA was held by the sample banks at 1.46 percent over the time span considered for the analysis. The average CAR for the same time is 13.63 %. However, the variance of ROA in banks is higher than CAR. The highest standard deviation for operational efficiency has been reported. Furthermore, the findings suggest that banks do not perform well in the field of operational costs. NPAs are up to 10 percent in the market, and on average 6.1 percent of banks' loans go badly.

Table 1. Descriptive Statistics

	CAR	ROA	GDP	NPA
MEAN	13.6375	1.46375	6.738751	6.125
STANDARD DEVIATION	0.48679	0.766531	1.12267	2.997976
MINIMUM	13	0.23	5.241345	2.7
MAXIMUM	14.2	2.47	8.256306	10

Table 2. Descriptive Statistics

	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (O/STERR)
CAR<-BANK SPECIFIC FACTOR	0.7946	0.7973	0.0455	17.4734
GDP <- MACRO- ECONOMIC FACTOR	1	1	0	0
NPA<- BANK SPECIFIC FACTOR	-0.4192	-0.4154	0.0323	12.9984
ROA <- BANK PROFITABILITY	1	1	0	0

Table 3 shows the matrix of correlations that indicate the strength of the interaction between the forecasting variables. As seen in the table, none of the independent variables are highly correlated. As suggested by Kennedy (2003), where the association between explainable variables is over 0.80 the issue of multicollinearity persists. But this is not the case in this analysis, and the highest association between ROA and Bank specific factors is shown as 0.92.

Table 3. Correlation Matrix

	Bank Profitability	Bank Specific Factor	Macro- Economic Factor
Bank Profitability	1		
Bank Specific Factor	0.929003	1	
Macro- Economic Factor	-0.888309	-0.929571	1

5. CONCLUSION

Profitability of the banking industry has been an area of interest to the Indian economy as the prevailing metric for estimating the output of the business. Indian banks are under relentless stress from the increasing NPAs. Bad loans persistently rob banking earnings and thereby hamper banks' reputation. NPA has been measured by the ratio of total non-performing assets to net advances for the purposes of the present job. The findings of this analysis showed NPA as the biggest detractor to the earnings of the banking sector. A rise in the share of bad loans in the overall loan portfolio of banks is showing a declining trend both of the benefit indicators. It means that decreasing credit quality impedes and contributes to bank results. When a problem exists where debts have not been repaid, these loans must be reported as a loss and charged against the earnings of the time concerned. Finally, it causes banks to fail to succeed, seen by lower ROA or ROE. Understanding the far-reaching effect of NPAs on banking income is of vital concern to policy-makers and banks, as the management system can be planned to cope with these bad loans and structured accordingly. The banking authority, the RBI, has made efforts to contain bad loans. The list of prompt remedial measures (PCA) and the Insolvency and Bankruptcy Code (IBC) are some of the latest moves in that direction. The effectiveness of these measures, however, is not as expected. The PCA list is intended for banks to avoid incremental credit. This action would exacerbate the condition of the banks until repayments begin. Similarly, for IBC, the bottleneck in insolvency cases cannot be cleared more rapidly and the crisis continues to drag. In the meantime, focus should be paid to what works for the banks and allows them to produce good returns. The Finance Minister's policy proposal to integrate banks in the public sector may result in a positive shift. When it turns out to result in a greater asset base, banks can expand and the fusion organisation can then benefit from consolidated synergy and economies of scale. Provided that management performance is a good factor for sustainability, according to an estimation of the ratio of operating profits to total assets, due attention should be paid to it. Non-traditional income generation should be stimulated so that banks do not rely upon interest income and are attracted to more risky schemes to achieve better returns. In addition, careful distribution of resources should be taken into account to minimize running costs generated for benefit

generation. Therefore, in order to remain afloat, it is necessary for banks to handle their loan portfolios well. If long dragged, the NPA problem can jeopardize the banks' viability, causing their returns to be negative

Study Limitations and Future Scope

The analysis shows insights for commercial banks in India with domestic holding. Since data related to international banks are unavailable, such institutions cannot be included in the report. The present study is therefore restricted only to the review of domestic banks. More detailed findings for the NPA-profitability partnership can be obtained by considering international banks. The moderating position of ownership and origin can also be calculated by initiating a cross-country study. The opportunity for further research thus remains by the extension of the survey and the accounting of a more diverse group of banks.

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